Masonite

Structural Insulation
Insulating Lath
Quartrboard
Presdwood

Masonite Corporation

111 W. Washington Street, Chicago, Illinois

MASONITE CORPORATION

Manufacturers of Masonite Structural Insulation and Presdwood

111 West Washington Street

CHICAGO, ILL.

PRODUCTS

MASONITE STRUCTURAL INSULATION.

MASONITE INSULATING LATH.

MASONITE PRESDWOOD 1/8 INCH THICK.

MASONITE QUARTRBOARD.

MASONITE PRESDWOOD $\frac{3}{16}$ INCH THICK.

INDEX

MASONITE

Its Manufacture and Adaptability

Masonite is a manufactured board, made entirely of wood fibre. It retains the natural strength and composition of wood, but is so made that a high degree of insulation value is added.

In the Mason Process of producing this scientific wood product, clean wood chips are exploded under high steam pressure, so that the wood is reduced to fibre. The product thus produced consists entirely of long cellulose fibre, with their strength unimpaired and the lignins, or natural cementing structure of the wood, entirely retained. No chemicals are used; the exploding process is purely a physical one, so that there is no change in the wood except tearing it apart into natural fibres.

Because the Mason Process has succeeded in producing a long fibre of unimpaired strength without the use of chemicals, the MASONITE CORPORATION is able to fabricate a board with the natural strength and composition of wood—an achievement never before attained.

Masonite Structural Insulation, as you buy it, is simply these long fibres thoroughly felted together and pressed into board form. No binder is added to the product. The natural cementing matter of the wood being unharmed, nothing but pressure and heat is needed to form the fibres into structural board. The pressure is applied hydraulically until the required degree of density is obtained. It is possible, therefore, to fabricate Masonite in various degrees of density, suiting the formation to the service the board is to perform.

Masonite Structural Insulation is pressed to a point which gives it the proper amount of structural rigidity, but still maintains great insulating value by leaving a myriad of minute air cells in and between the fibres. As a result, this material combines structure and insulation to a degree that has heretofore been difficult to find.

Its Insulation Value

The thermal conductivity of Masonite Structural Insulation for 1-inch thickness as determined by the G. F. Gebhardt Laboratories, expressed in B.t.u.'s per hour, per square foot of surface, per degree Fahrenheit difference in temperature between the two surfaces of the material is 0.328. Tested by Prof. Frank B. Rowley, testing engineer, University of Minnesota, it was found to have a co-efficient of heat conductivity of 0.321. Both of these tests were made by the flat plate method. According to hot box tests made by J. C. Peebles of Armour Institute of Technology, the coefficient of conductivity is 0.253.

Where to Use Masonite

The specifications listed in the following pages indicate the great spread of uses of Masonite Structural Insulation. Probably no other building material fits such a great variety of jobs as this one. Its smooth, uniform boards, $\frac{7}{16}$ inch thick, 4 feet wide and 8, 9, 10 or 12 feet long, and with a density of about 19 pounds per cubic foot, can be handled, sawed, cut and nailed like wood, because they are wood.

Only the most common uses are discussed in these pages, the more unusual ones being reserved for special bulletins.

Masonite as Sheathing

Probably the most common use of Masonite in building is sheathing. Under frame, brick, stone or stucco exterior walls it replaces other materials without increase in cost, but with a great increase in the value of the building. The added insulation meets every demand of the present day trend toward insulated buildings, and shows amazing results in the reduction of heating costs, additional comfort in winter and summer, and greater rigidity and strength in the structure.

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Three important factors of saving should be noted where Masonite is used for sheathing: *Labor costs* are reduced by the increased rapidity and ease with which the big, uniform boards go into place; *building paper* is eliminated, being unnecessary on any Masonized building; *waste* is cut to the irreducible minimum.

Masonite as Plaster Base

Where Masonite is used as a plaster base, it puts an end to all controversy about the use of a substitute for lath. The introduction of Masonite in shiplapped boards, 2x4 feet, has brought such uniformly excellent results that even the most skeptical builders acclaim it as a fundamental improvement in plastering practice.

Masonite Insulating Lath (as covered in Specification No. 3) is uniformly furnished in bundles of 100 square feet and they are shiplapped along both 4-foot edges. Applied in staggered arrangement, they make an exceedingly strong rigid base. In a series of tests to determine the strength of the bond between Masonite Insulating Lath and plaster applied to it, the Robert W. Hunt Company, testing engineers, found that it withstood a pull of more than 1066 pounds per square foot of surface.

High Resistance to Moisture

The action of Masonite Insulating Lath under moisture is one of the remarkable features that causes exceedingly favorable comment everywhere. Samples of Masonite 12 inches square tested by Robert W. Hunt Company for water absorption were completely immersed. At the end of 4 hours they had absorbed, by volume 2.59%; at the end of 24 hours, 7.16% and at the end of 72 hours only 15.87%. Shrinking and swelling are practically eliminated. Walls plastered on Masonite Insulating Lath remain smooth, even, free from cracks and free from unsightly lath marks.

Note particularly that Masonite Insulating Lath requires no special treatment nor reinforcement, because joints are broken every 2 feet. The only exception to this rule is at the corners, where strips of metal lath or wire screen are recommended.

Masonite as Interior Finish

Masonite's surface suits it particularly well for use as an interior finish. It is smooth, with just enough texture and mottling to provide an interesting surface.

Used in its natural state, it makes a very pleasing panel wall, decidedly out of the ordinary in effect.

Stain, plastic paint, or textured wall finishes may be applied direct to the board. Paint or varnish should be applied over a size or priming coat.

Because of its surface texture, Masonite has won recognition as an interior finish from many builders who have heretofore questioned the use of similar materials for this purpose. Being a true wood product, Masonite eliminates the artificial, "temporary" look common to similar partitions, and provides a substantial permanent wall.

In covering joints, the usual plan of wood battens is applicable. More artistic finishes, in a great variety of paneled effects, may be secured by the use of special Masonite battens or fancy mouldings.

Masonite as Roof Insulation

To stop heat losses through the roof, Masonite may be applied in a number of ways, making it possible to reduce fuel costs in every type of building.

The recommended practice for application of Masonite on the outer roof of houses with wood rafters calls for the application of Masonite directly over the rafters, so that the entire roof is lined with insulation. The usual wood sheathing is then nailed over the Masonite, with boards spaced 1 inch apart. This well insulated roof serves as an excellent base for wood shingles, asbestos shingles, slate, burned clay tile and asphalt shingles.

On buildings already constructed, the desired insulation may be secured by the application of Masonite under the rafters.

Over concrete and wood decks, where the flat, exposed surface often leads to tremendous heat losses, Masonite is a particularly effective insulation. Nailed to the wood, or mopped on to the concrete, it serves equally well. On another page there is presented a chart giving exact figures of heat losses in different types of roofs and showing how those heat losses may be reduced and brought under control.

Special specifications for various types of roof insulation not covered in detail in these pages, may be had by writing MASONITE CORPORATION.

Masonite as Sound Deadening

Where Masonite is used on walls, ceilings and floors, it has another important function, along with its structural and heat insulating values. Masonite is an invaluable material in the control of sound. With the increasing demand for soundproof construction, it is especially interesting to note that the use of Masonite provides excellent results with little additional cost.

The control of insulation of sound is accomplished either through the weight of the wall, as in heavy masonry walls, or through the rigidity of the wall. The efficiency of Masonite is due to the latter.

Testing the reduction of sound intensity through different standard types of partitions, Prof. Paul E. Sabine, at the head of the Department of Acoustics, Riverbank Laboratories, Geneva, Ill., found that through 4-inch clay tile, plastered, weighing 28.0 pounds per square foot, there was a reduction of 34 sensation units, while through a partition of Masonite on wood studs, plastered, weighing 17.0 pounds per square foot, the reduction in sensation units was 35.1.

Conversational speech was heard faintly but was unintelligible through the Masonite partition. The sound of a phonograph was almost inaudible.

Following tests made on Masonite Structural Insulation, taken from dealers' regular stock, by Prof. Sabine, to determine the sound absorption coefficients of the standard $\frac{7}{16}$-inch board when used as the exposed finished wall or ceiling surfaces as a means of preventing excessive reflection of sound and reverberation in rooms, he made the following report:

This table of coefficients covers the entire range of tones encountered in music and speech.

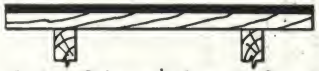
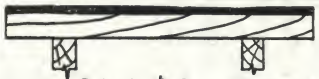
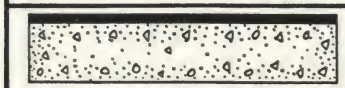
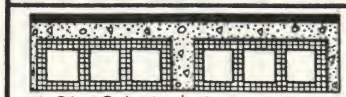
Tone Frequency	C2 128	C3 256	C4 512	C5 1024	C6 2048	C7 4096
Masonite on 2x4-in. studs.....	.18	.245	.31	.34	.30	.24
Masonite on 2x1-in. furring....	.17	.24	.28	.295	.30	.28

Continued on next page

HEAT LOSSES THROUGH VARIOUS ROOF CONSTRUCTIONS—INSULATED AND UNINSULATED

TYPE OF ROOF INSULATION

Reference to this heat loss chart will show at a glance that a five-ply pitch and gravel roof with a ⅞-in. wood deck will lose a coal value of 6.79 tons per thousand feet of area in one heating season, when exposed to an average difference in temperature of 40° and uninsulated. The same roof, insulated with one layer of Masonite, loses only 3.92 tons during one heating season.

TYPE OF ROOF INSULATION		Conductivity -K-	Percent Savings Due To Insulation	Sq. Ft. of Radiation Required Per 1000 Sq. Ft. Roof Area For 10° Difference In Temperature Multiply Amount Shown By Diff. in Temp / 10		Heat Losses In Tons Of Coal Per 1000 Sq. Ft. Of Roof Area, Per 210 Days At Differences Of Temperature Shown. Calculations Are Based On Average Heating Value Of Coal 12000 B.T.U. And Furnace Efficiency Of 60%. Temperature Difference — F									
				Steam	H.Water	10°	20°	30°	40°	50	60°	70°	80°	90°	100°
 5 Ply Pitch & Gravel Roof ⅞" Wood Deck (Soft Wood)	None	.485		20.02	30.32	1.70	3.39	5.10	6.79	8.50	10.19	11.89	13.58	15.27	17.00
	One Layer MASONITE	.280	42%	11.67	17.50	.98	1.96	2.94	3.92	4.90	5.87	6.84	7.83	8.82	9.80
	Two Layers MASONITE	.196	60%	8.16	12.50	.68	1.37	2.06	2.74	3.43	4.12	4.79	5.48	6.15	6.85
 5 Ply Pitch & Gravel Roof 1¾" Wood Deck (Soft Wood)	None	.345		14.37	21.57	1.20	2.40	3.62	4.83	6.04	7.24	8.45	9.65	10.85	12.05
	One Layer MASONITE	.226	35%	9.42	14.22	.79	1.58	2.37	3.16	3.96	4.75	5.54	6.33	7.12	7.92
	Two Layers MASONITE	.168	51%	7.00	10.50	.59	1.17	1.76	2.35	2.94	3.52	4.12	4.70	5.29	5.88
 5 Ply Pitch & Gravel Roof 2" Concrete Deck	None	.658		27.40	41.13	2.31	4.61	6.90	9.22	11.50	13.81	16.11	18.41	20.72	23.06
	One Layer MASONITE	.330	50%	13.75	20.61	1.15	2.30	3.45	4.61	5.75	6.90	8.05	9.20	10.36	11.53
	Two Layers MASONITE	220	67%	9.16	13.75	.77	1.54	2.30	3.08	3.84	4.61	5.37	6.14	6.92	7.70
 5 Ply Pitch & Gravel Roof 3" Concrete Deck	None	.610		25.40	38.17	2.13	4.27	6.40	8.54	10.68	12.81	14.95	17.10	19.20	21.35
	One Layer MASONITE	.317	48%	13.21	19.80	1.11	2.22	3.32	4.43	5.54	6.65	7.75	8.86	9.97	11.08
	Two Layers MASONITE	.214	65%	8.92	13.38	.75	1.50	2.24	2.99	3.74	4.50	5.24	5.99	6.74	7.49
 5 Ply Pitch & Gravel Roof 4" Concrete Deck	None	.568		23.65	35.75	1.99	3.98	5.96	7.95	9.94	11.92	13.90	15.89	17.88	19.86
	One Layer MASONITE	.306	46%	12.75	19.13	1.07	2.14	3.21	4.28	5.35	6.42	7.49	8.56	9.63	10.72
	Two Layers MASONITE	.209	63%	8.71	13.08	.73	1.46	2.19	2.92	3.65	4.38	5.11	5.84	6.57	7.32
 5 Ply Pitch & Gravel Roof 6" Concrete Deck	None	.500		20.81	31.25	1.75	3.50	5.25	7.00	8.75	10.50	12.25	14.00	15.75	17.50
	One Layer MASONITE	.285	43%	11.88	17.82	.99	1.98	2.97	3.96	4.95	5.94	6.93	7.92	8.91	9.90
	Two Layers MASONITE	.199	60%	8.29	12.45	.70	1.40	2.10	2.80	3.50	4.20	4.90	5.60	6.30	7.00
 5 Ply Pitch & Gravel Roof 2"Concrete 6"Hollow Tile	None	.495		20.62	30.95	1.73	3.46	5.19	6.92	8.65	10.38	12.11	13.84	15.57	17.30
	One Layer MASONITE	.292	41%	12.15	18.25	1.02	2.04	3.06	4.08	5.10	6.12	7.14	8.16	9.18	10.20
	Two Layers MASONITE	.207	58%	8.62	12.93	.72	1.44	2.16	2.88	3.60	4.32	5.04	5.76	6.48	7.20

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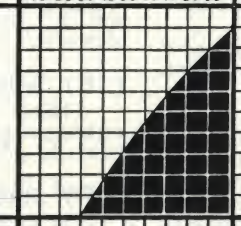
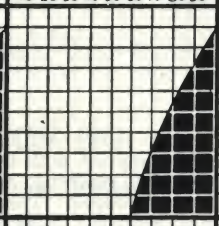
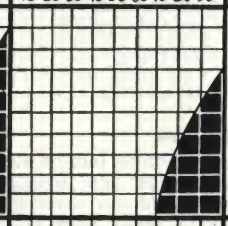
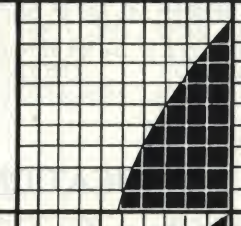
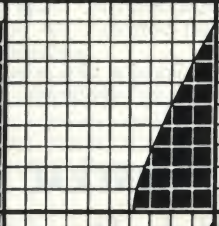
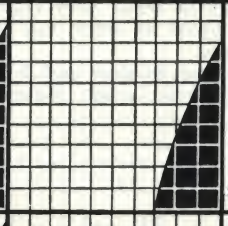
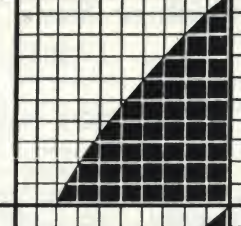
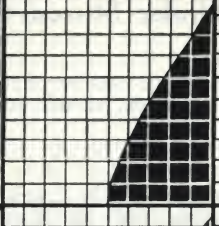
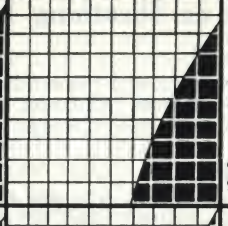
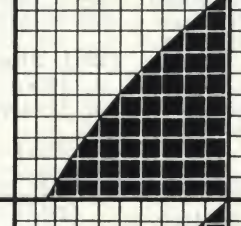
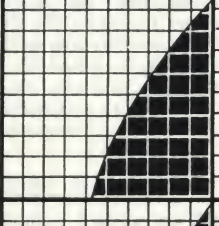
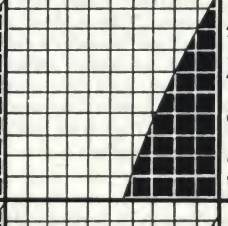
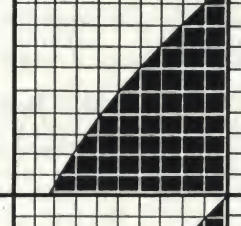
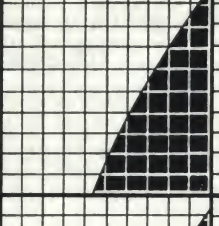
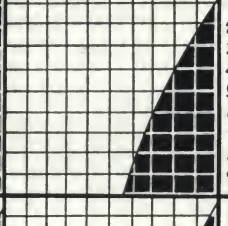
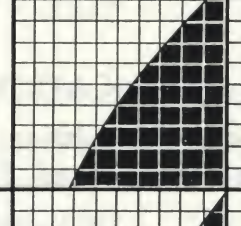
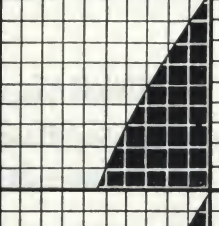
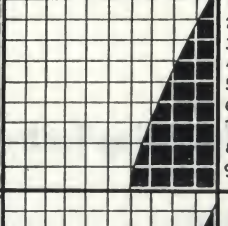
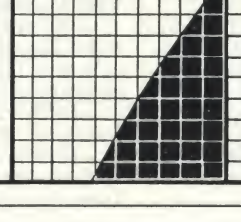
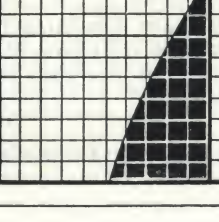
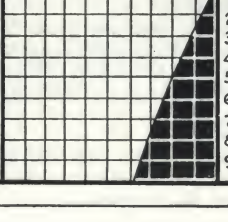
CONDENSATION CHART

The following example will explain the condensation chart. On a roof of five-ply pitch and gravel type, condensation starts at a relative humidity of 50% when the difference in temperature is 70° and the roof is uninsulated. Insulated with one layer of Masonite, the same roof under the same conditions would show no condensation up to a humidity of 70%, while two layers of Masonite would resist humidity up to 80%.

CHART SHOWING WHETHER OR NOT CONDENSATION WILL FORM ON BOTTOM OF DECK

Black Indicates Danger Of Condensation
White Indicates No Condensation

TYPE OF ROOF	Uninsulated — Percent Relative Humidity 10 20 30 40 50 60 70 80 90	With One Layer Of MASONITE — Percent Relative Humidity 10 20 30 40 50 60 70 80 90	With Two Layers Of MASONITE — Percent Relative Humidity 10 20 30 40 50 60 70 80 90	Temperature Difference 10 20 30 40 50 60 70 80 90
5 Ply Pitch & Gravel Roof $\frac{7}{8}$" Wood Deck (Soft Wood)				Temperature Difference
5 Ply Pitch & Gravel Roof $1\frac{3}{4}$" Wood Deck (Soft Wood)				Temperature Difference
5 Ply Pitch & Gravel Roof 2" Concrete Deck				Temperature Difference
5 Ply Pitch & Gravel Roof 3" Concrete Deck				Temperature Difference
5 Ply Pitch & Gravel Roof 4" Concrete Deck				Temperature Difference
5 Ply Pitch & Gravel Roof 6" Concrete Deck				Temperature Difference
5 Ply Pitch & Gravel Roof 2" Concrete 6" Hollow Tile				Temperature Difference

Continued on next page

GENERAL SPECIFICATION NO. 1

Masonite as Sheathing in Frame Construction—See Fig. 1, Page 9

(1A) Material

(1Aa) Sheathing and insulation of all exterior walls shall be Masonite Structural Insulation 7/16" thick, as manufactured by MASONITE CORPORATION, Chicago, Ill.

(1B) Framing

(1Ba) Studs, joists, sills and plates shall be framed as in ordinary frame construction. All studs shall be placed accurately on 16" centers. Where horizontal joints in the Masonite are necessary, use 2"x4" headers cut in between the studs. Any odd spaces required to make over-all lengths shall be located in or near the middle.

Note: *No extra cross bracing other than commonly used is required. Fire stops and wind bracing are recommended. If required, so specify.*

(1C) Application

(1Ca) The Masonite boards shall be applied with the long dimension parallel with and directly to the studding, allowing ample bearing surface for nailing on all edges. Horizontal joints shall only be made over framed headers. Boards shall be placed 3/16" apart at sides, top and bottom. Do not force boards into place.

(1Cb) Around window and door frames, and where tight joints are required, bring Masonite to moderate contact.

(1Cc) Where standard frames are used, nail in a 3" wide strip of Masonite to build up back of outside window and door casings.

(1Cd) Cut Masonite to fit snugly around rafters that project beyond face of studs.

(1D) Nailing

(1Da) Beginning in center, nail Masonite first to intermediate studs, and then entirely around all edges of board to studs, sills, plates and headers. Use galvanized 1½" roofing nails, with 3/8" head, all nails shall be 4" apart on centers and 3/8" from all edges. Drive nails flush with surface of Masonite.

(1E) Siding Walls

(1Ea) Wood siding shall be applied directly over Masonite without the use of building paper, nailing through into studs. Joints in siding shall butt on center of studs.

(1F) Shingle Walls

(1Fa) Furring strips, spaced to the proper shingle weathering, 1"x2" shall be applied horizontally over Masonite and nailed through into studs.

(1Fb) Shingles shall be secured to furring strips in accordance with the manufacturer's specifications.

GENERAL SPECIFICATION NO. 2

Masonite as Sheathing Under Stucco, Brick or Stone Veneer—See Figs. 2 and 3, Page 9

(2A) Material

(2Aa) Sheathing and insulation of all exterior walls shall be Masonite Structural Insulation 7/16" thick, as manufactured by MASONITE CORPORATION, Chicago, Ill.

(2B) Framing

(2Ba) Studs, joists, sills and plates shall be framed as in ordinary frame construction. All studs shall be placed accurately on 16" centers. Where horizontal joints in the Masonite are necessary, use 2"x4" headers cut in between the studs. Any odd spaces required to make over-all lengths shall be located in or near the middle.

Note: *No extra cross bracing other than commonly used is required. Fire stops and wind bracing are recommended. If required, so specify.*

(2C) Application

(2Ca) The Masonite boards shall be applied with the long dimension parallel with and directly to the frame work members, allowing ample bearing surface for nailing on all edges. Horizontal joints shall only be made over framed headers. Boards shall be placed 3/16" apart at sides, top and bottom. Do not force boards into place.

(2Cb) Around window and door frames, and where tight joints are required, bring Masonite to moderate contact.

(2Cc) Where standard frames are used, nail in a 3" wide strip of Masonite to build up back of outside window and door casings.

(2Cd) Cut Masonite to fit snugly around rafters that project beyond face of studs.

(2D) Nailing

(2Da) Beginning in center, nail Masonite first to intermediate studs, and then entirely around all edges of board to studs, sills, plates and headers. Use galvanized 1½" roofing nails, with 3/8" head, all nails shall be 4" apart on centers and 3/8" from all edges. Drive nails flush with surface of Masonite.

(2E) Stucco Finish

(2Ea) 1"x2" wood furring strips for *(metal) (wood)* lath shall be applied vertically, nailed through Masonite into each stud.

(2Eb) Apply all metal lath in accordance with the standard specifications of the Associated Metal Lath Manufacturers.

(2Ec) Wood lath to be applied in the customary manner.

(2Ed) Stucco shall be applied in accordance with the stucco manufacturer's specifications.

Note: *No stucco shall be applied direct to Masonite on exterior walls.*

(2F) Brick or Stone Veneer

(2Fa) Shelf angles for the support of lintels, etc. and metal ties shall be nailed through Masonite into studs only. Do not nail into Masonite between studs.

(2Fb) Brick or stone shall be set out at least ½" from the face of Masonite.

GENERAL SPECIFICATION NO. 3

Masonite Insulating Lath as Plaster Base and Insulation for Outside and Partition Walls and Ceilings—See Figs. 4 and 5, Page 9

(3A) Material

(3Aa) Plaster base shall be Masonite Insulating Lath as manufactured by MASONITE CORPORATION, Chicago, Ill. Lath shall be 7/16" thick, 48" wide, 12", 18", or 24" high, with the 48" edges shiplapped.

(3B) Framing

(3Ba) Studs, joists, sills and plates shall be framed as in ordinary frame construction. All studs shall be spaced accurately on 12" or 16" centers.

(3C) Application for Frame Construction

(3Ca) The Masonite Insulating Lath shall be applied at right angles to the studding, joists or rafters. Apply boards to break joints, space 1/8" apart at all ends. Bring shiplapped edges to moderate contact. Do not force into place.

(3Cb) Around window or door frames, or where tight joints are required, bring Masonite to moderate contact.

(3Cc) All re-entrant angles shall be protected with galvanized *(metal lath Cornerite) (strips of wire screen cloth)* from floor to ceilings and where side walls meet ceiling.

Continued on next page

The *(Cornerite) (wire screen cloth)* shall be nailed through Masonite to studs.

(3Cd) The center joint of all room ceilings shall be covered with a piece of rib lath cut so the rib covers center of joint. Allow portion of expanded lath to extend on each side. Rooms over 16 ft. wide shall have two additional strips spaced midway between the center strip and the wall. All strips shall run the long way of the room.

(3D) Nailing

(3Da) Nail Masonite Insulating Lath with 5d box nails every 4″ on centers. Nail intermediate studs first and then the ends.

(3E) Application for Masonry Construction

(3Ea) Wood furring strips 1″ x 2″ shall be applied vertically, secured in the usual manner to the masonry walls, set 12″ or 16″ on centers.

Note: *Application of Masonite Insulating Lath to the furring strips shall be as specified in (3C), page 5.*

(3F) Plaster

(3Fa) Quick setting gypsum plaster containing not more than 2% lime shall be used. Plaster should set in about one and one-half hours and not to exceed two hours. Apply plaster directly to the surface of the Masonite. The first coat (scratch coat and brown coat together) shall be brought out flush to ½″ grounds and must be thoroughly dry before applying finish coat. Total thickness shall be not less than ½″.

(3Fb) The plasterer shall use the darby in the direction of the studding or joist, and it shall be of sufficient length to span two or more studs or joists.

Note: *Do not wet Masonite before applying plaster. Keep room being plastered well ventilated in both winter and summer. Lime plaster is not recommended over Masonite.*

GENERAL SPECIFICATION NO. 4

Masonite Structural Insulation as an Interior Finish

See Fig. 6, Page 9

(4A) Material

(4Aa) All interior walls and ceilings shall be covered with Masonite Structural Insulation 7/16″ thick, as manufactured by MASONITE CORPORATION, Chicago, Ill.

(4B) Framing

(4Ba) Studs, joists, sills and plates shall be framed as in ordinary frame construction. All studs shall be placed accurately on 16″ centers. Where horizontal joints in the Masonite are necessary, use 2″x4″ headers cut in between the studs.

(4Bb) Consideration shall be given for the design of the paneling desired, using extra studs if necessary.

(4Bc) Headers shall be installed back of chair rails and all similar moulded trim.

(4C) Application

(4Ca) The Masonite boards shall be applied directly to the frame work members, allowing ample bearing surface for nailing on all edges. Horizontal joints shall only be made over framed headers. Boards shall be placed 3/16″ apart at sides, top and bottom. Do not force boards into place.

(4Cb) Around window and door frames, and where tight joints are required, bring Masonite to moderate contact.

(4D) Nailing

(4Da) Beginning in the center, nail Masonite to intermediate studs with 1¾″ finishing nails, driven at a 30 degree angle every 6″. Heads shall be countersunk with nail set. Nail edges with standard galvanized 1½″ roofing nails with ⅜″ heads, spacing them 4″ apart on centers and ⅜″ from edge of board.

(4E) Trim

(4Ea) Joints shall be covered with Masonite battens 7/16″ x 4″ beveled at a 45 degree angle on each edge. For corners or angles, bevel one edge only. Do not bevel the ends.

(4Eb) Baseboard and other trim shall be as commonly used.

(4Ec) Nail battens secured to framing, headers, etc., with 6d finish nails set at a 30 degree angle.

(4F) Painting and Decorating

Note: *Masonite may be left in its pleasing natural color and finish, or it may be painted or enameled. Before painting, size with a glue, casein or prepared sizing. Painting without size will use more paint than necessary. See paint specifications.*

GENERAL SPECIFICATION NO. 5

Masonite Structural Insulation for Ceiling and Floor Insulation

See Figs. 7 and 8, Page 10

(5A) Material

(5Aa) Ceilings—For ceilings, use Masonite Insulating Lath, as manufactured by MASONITE CORPORATION, Chicago, Ill.

(5Ab) Floors—For floor insulation, use Masonite Structural Insulation (full size boards).

(5B) Application

(5Ba) Ceilings—For ceilings, nail Masonite Insulating Lath directly to ceiling joists, using standard 5d box nails, when plaster is to be applied. Framing shall follow usual framing specifications, as given in plastering specifications No. 4.

(5Bb) Floors—For floor insulation, apply on usual framing specifications, nailing Masonite Structural Insulation directly to the joists, using standard 5d box nails. Nail rough floor through Masonite to the joists.

GENERAL SPECIFICATION NO. 6

Sizing, Painting, Staining, Tinting, Plastic Paints or Wall Paper on Masonite Structural Insulation

(6A) Staining

Note: *Any stain, whether oil, benzol, alcohol or acid may be applied over Masonite in the usual manner. Water stain and oil commercial stains used for dyeing wood can be used over Masonite. Apply according to the manufacturer's specifications. Masonite will take paste-water stain without first sizing.*

(6B) Sizing

Note: *In order to get maximum covering capacity for oil paints, the surface of the Masonite boards shall be sized. Various standard sizes offered on the market may be used, or a size may be made by dissolving two pounds of shell or chip glue in three gallons of boiling water. A second coat may be applied four or six hours later, if required. Second coat should be diluted with ¼ volume water, all size shall be applied warm.*

(6C) Painting

Note: *Allow size coat to become thoroughly dry, then apply one or two coats of paint, or enamel.*

Continued on next page

GENERAL SPECIFICATION NO. 7

Masonite as Insulation and Base for Plastic Paints

(7A) Material

(7Aa) All interior walls and ceilings shall be covered with Masonite Structural Insulation $\frac{7}{16}$" thick, as manufactured by MASONITE CORPORATION, Chicago, Ill.

(7B) Framing

(7Ba) Follow usual framing specifications. Headers are particularly recommended behind chair rails and all other moldings.

(7C) Nailing

(7Ca) A 5d box nail placed 6" apart on centers through center of board and 4" apart around all edges shall be used. Set all nail heads with a ball head hammer. Apply small amount of plastic paint over the heads of the nails and smooth down to an even finish.

(7D) Joint Construction

(7Da) Sand the Masonite for a width of about 3" each way from the joints, using a block of wood and No. 1 sand paper. Over each joint apply a strip of muslin 2" or 3" wide, or buckram tape, embedding it in the plastic paint that has been applied to the joint to receive it. The plastic paint must be spread along each side of the tape for an inch or more to prevent the edges of the tape from showing through the finished wall. The cloth tape must be pressed firmly into the plastic paint by the use of a painter's scraping knife, or pointing trowel and with sufficient force to bring the tape into intimate contact with the Masonite.

(7E) Corner Construction

(7Ea) A strip of wire screen cloth or metal cloth bent to a right angle, shall be inserted in all re-entrant angles and bonded in place with the plastic paint as specified in paragraph (7Da).

(7F) Application

(7Fa) After the plastic paint in the joints and angles has become thoroughly dry, sand to a smooth even surface, using No. ½ sand paper to prepare the surface ready for the application of the plastic paint. The plastic paint shall be applied in accordance with the manufacturer's specifications.

GENERAL SPECIFICATION NO. 8

Wall Paper Applied to Masonite Structural Insulation

(8A) Framing

Note: *Follow usual framing specification. Headers behind chair rails and all other mouldings are particularly recommended.*

(8B) Nailing

Note: *Follow plastic paint nailing specifications, then set all nail heads with a ball head hammer and apply a small amount of Swedish putty over the heads of the nails and smooth down to an even finish.*

(8C) Joint Construction

Note: *Follow method as specified in Specification No. 7 for plastic paint, except instead of treating the joints with plastic paint and muslin strip or buckram, they should be treated with Swedish Putty and muslin strip or buckram. After the Swedish Putty has become thoroughly dry, sand to a smooth and even finish. Use No. ½ sandpaper.*

(8D) Application

(8Da) After the joints have been properly treated, the entire wall surface shall be given a coat of paperhanger's size, or casein size. Size coat shall be thoroughly dry before applying paper.

(8Db) The paper shall be hung in the usual manner.

GENERAL SPECIFICATION NO. 9

Masonite as Roof Insulation Under Wood Rafters

See Fig. 9, Page 10

Note: *Application of Masonite under wood rafters should be specified for the insulation of all existing roofs and also for new roofs covered with wood shingles, slate, zinc, copper and all other types of roof covering materials requiring a solid wood deck for nailing.*

(9A) Material

(9Aa) Insulation shall be Masonite Structural Insulation $\frac{7}{16}$" thick, manufactured by MASONITE CORPORATION, Chicago, Ill., in sizes 4'x8', 9', 10', or 12'.

(9Ab) Use Masonite Insulating Lath for attics where scuttle holes will not permit the use of the larger size boards.

(9B) Framing

(9Ba) The rafters shall be spaced 16" on centers.

(9Bb) Whenever it is necessary to have a horizontal joint in Masonite, a 2"x4" header shall be cut in between the rafters.

(9C) Application

(9Ca) The Masonite boards shall be applied parallel with and directly to the rafters, with a bearing for nailing on all edges.

(9D) Nailing

(9Da) Nail with either 5d box or 1½" roofing nails, spaced 6" apart in body of board and 4" apart around all edges.

(9Db) Wherever a tight joint is desired around openings, at corners, etc., fit Masonite carefully and bring to moderate contact. Do not force boards into place.

(9E) Interior Finish

(9Ea) If interior finish is desired, care shall be exercised in laying out rafters, studs and headers for the paneling design required. Intermediate rafters, studs and headers shall be nailed with 1¾" finishing nails every 6", nails to be driven at a 30 degree angle.

Note: *For nailing sides and ends, see specification No. 4.*

(9Eb) Panel strips shall be of Masonite $\frac{7}{16}$"x4", with edges beveled at a 45 degree angle.

(9F) Plaster Base

(9Fa) When plaster is to be applied, Masonite Insulating Lath shall be used, applied in accordance with standard specification No. 3 for the application of plaster to Masonite Insulating Lath.

(9G) Special Treatment

Note: *Many unusually artistic battens and all-over decorative effects may be secured with Masonite. By using special cutting tools, or by sanding strips of Masonite, many different designs may be made quickly and easily.*

Continued on next page

GENERAL SPECIFICATION NO. 10

Masonite as Roof Insulation on Top of Wood Rafters—See Fig. 10, Page 10

Note: The use of Masonite on top of wood rafters is applicable for roofs of wood shingle, asbestos shingle, etc.

(10A) Material

(10Aa) Roof insulation shall be Masonite Roof Insulation 7/16" thick, manufactured by MASONITE CORPORATION, Chicago, Ill.

(10B) Framing

(10Ba) Space rafters 16" on centers. Cut in a 2" x 4" header wherever there is a horizontal joint in the Masonite. Provide suitable pieces for a nailing base at the ends of all rafters, ridges, hips, valleys, etc.

(10C) Application

(10Ca) Apply Masonite parallel with and directly to the rafters with a bearing for nailing along all edges.

(10Cb) Leave 1/16" space between all boards at top, bottom and sides. Around corners, gables, openings, chimneys, and at all points where a tight joint is required, the Masonite shall be finished carefully and brought to moderate contact. Boards should not be forced into place.

(10D) Nailing

(10Da) Masonite shall be nailed first to intermediate rafters and headers, then nailed around all edges of each board. Nails shall be standard 1½" roofing nails with 3/8" heads, spaced 4" apart. Drive heads flush with the surface of the Masonite. Place nail not less than 3/8" from the edges of the board.

(10E) Roof Sheathing

(10Ea) For *(wood shingles) (asbestos shingles) (tile) (specify)* roofs, apply wood sheathing over Masonite in the usual manner, nailed through the Masonite into the rafters.

GENERAL SPECIFICATION NO. 11

Masonite Roof Insulation Over Concrete, Gypsum, Wood and Steel Decks See Figs. 11 and 12, Page 10

(11A) Material

(11Aa) Roof insulation shall be Masonite Roof Insulation, size 3'x4' or 4'x4', as manufactured by MASONITE CORPORATION, Chicago, Ill.

(11B) Preparation of Concrete and Gypsum Decks

(11Ba) The roof deck shall be reasonably smooth, dry, well cured and free from all rubbish.

(11Bb) If not well cured, the deck shall be primed, using not less than one gallon of standard concrete primer per 100 square feet of roof.

(11C) Application over Concrete and Gypsum Decks

(11Ca) Mop deck solid with a heavy, uniform coat of hot roofing pitch, or asphalt, using not less than 30 pounds per 100 square feet. Masonite shall be laid in pitch or asphalt having a melting point of approximately 200° F. and pressed firmly into place while the asphalt or pitch is hot. All edges of Masonite shall be brought to moderate contact. Do not force boards into place. Transverse joints and joints of successive layers shall be broken.

(11Cb) If more than one layer of Masonite is applied, mop the top surface of the previous layer in the same manner as stated above, using 30 pounds of pitch or asphalt to each 100 square feet of surface, but without primer.

(11Cc) Apply roofing in the usual manner, over Masonite, according to the roofing manufacturer's specifications.

(11D) Preparation of Wood Decks

(11Da) The roof deck shall be made of seasoned, dressed and matched lumber, properly nailed, all nails driven flush with boards. The deck shall be laid to slope and pitched to drain as shown on plans. The deck shall be swept clean before laying Masonite.

(11Db) Nail cant strips around walls and elsewhere where required.

(11E) Application over Wood Decks

(11Ea) The first layer of Masonite shall be nailed to wood deck, using 1½" standard roofing nails with 3/8" heads and spaced 12" on centers, nails to be driven flush with surface. Nails in body of board to be staggered.

(11Eb) If more than one layer of Masonite is to be used, mop the surface of the first layer with not less than 30 pounds of pitch or asphalt, per 100 square feet of surface.

(11Ec) Press Masonite firmly into the hot pitch or asphalt, breaking all joints.

(11Ed) Apply roofing in usual manner over the Masonite, according to the roofing manufacturer's specifications.

(11F) Preparation of Steel Decks

Decks shall be free from grease, oil, dirt, etc., and the weather surface properly coated with suitable asphalt primer. All rubbish shall be removed and the deck swept clean. All sharp angles shall be rounded out so as to avoid rough sharp edges. Lay a strip of roofing felt 6" wide, uncemented, over expansion joints at ridge, cementing the Masonite over it.

(11G) Application Over Steel Decks

Note: *Follow the method of application as given in (11C).*

GENERAL SPECIFICATION NO. 12

Masonite Insulation Applied to Lime or Gypsum Plastered Walls and Ceilings for Acoustical Correction

(12A) Material

(12Aa) The plastered walls or ceilings or both, shall be covered with Masonite Structural Insulation 7/16" thick, as manufactured by MASONITE CORPORATION, Chicago, Ill.

(12B) Application

(12Ba) The Masonite Structural Insulation boards shall be fastened to the plastered walls and ceilings by means of one of the commercial adhesives, applied according to the manufacturer's specifications.

Note: *The adhesive should be a waterproof glue or cement and of such a character that it would be easily worked and applied. It must be quick setting, have a certain degree of elasticity when set, be inedible and unattractive to insects and rodents and should be comparatively inexpensive.*

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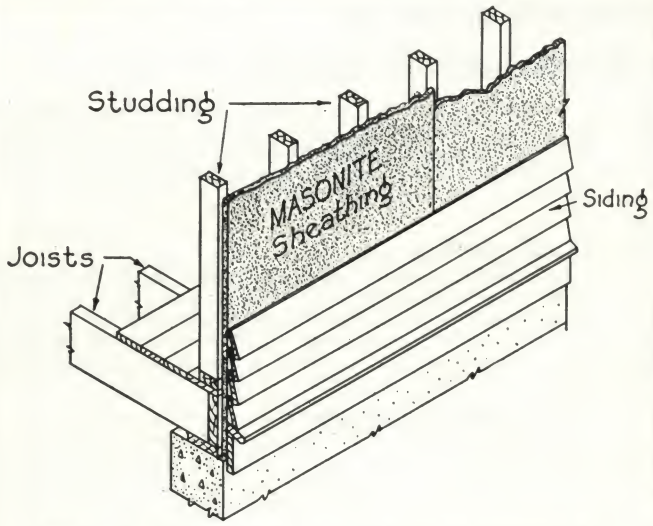

FIG. 1 FRAME CONSTRUCTION

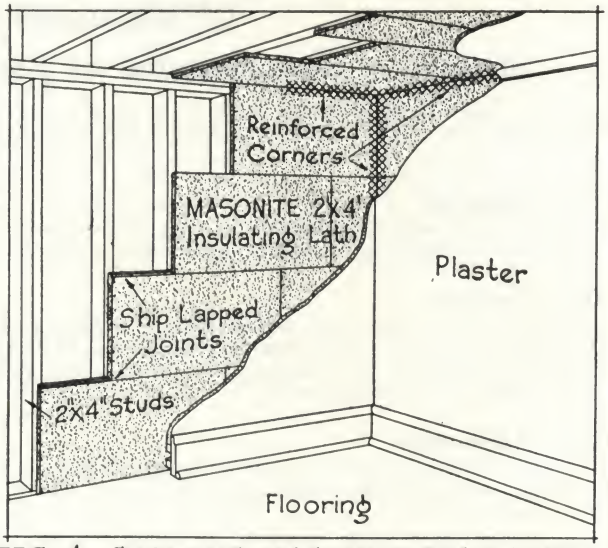

FIG. 4 SHOWING MASONITE INSULATING LATH USED AS PLASTER BASE

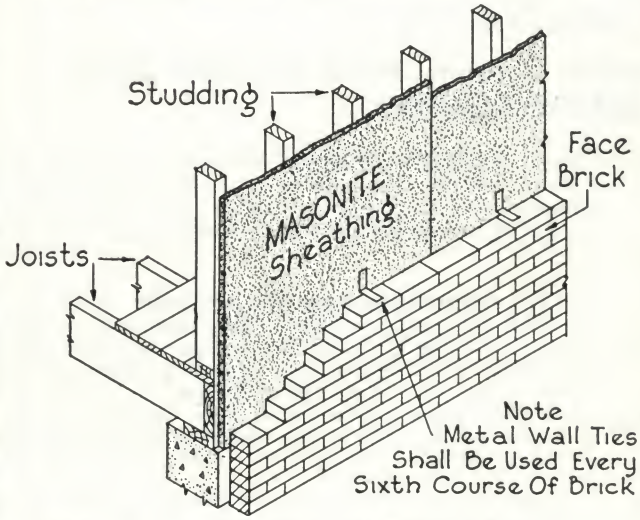

FIG. 2 BRICK VENEER

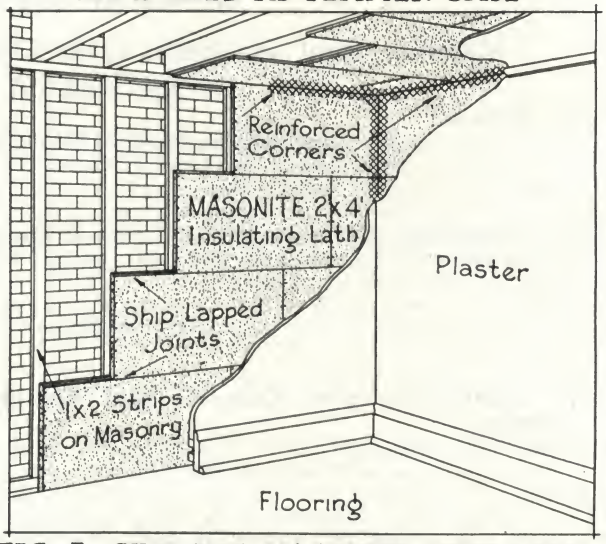

FIG. 5 SHOWING MASONITE INSULATING LATH USED AS PLASTER BASE ON MASONRY

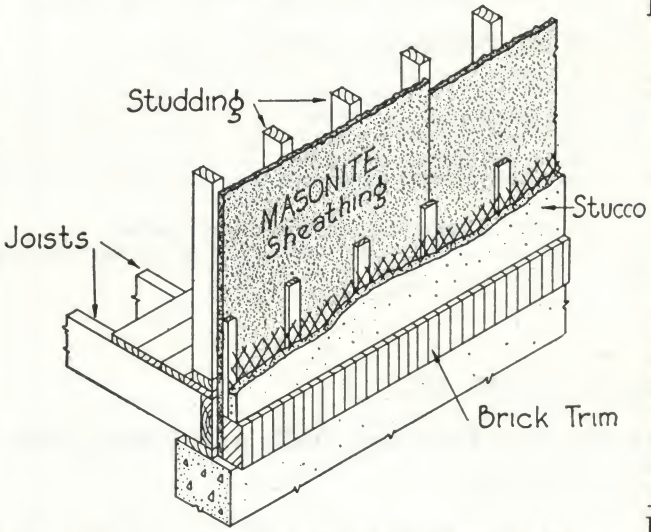

FIG. 3 STUCCO ON FRAME

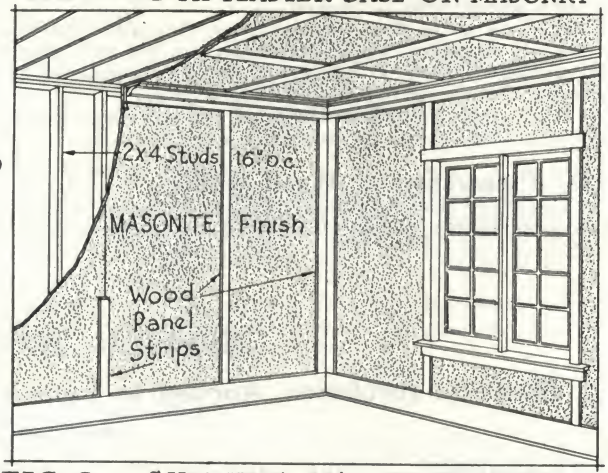

FIG. 6 SHOWING MASONITE USED AS AN INTERIOR TRIM

MASONITE CONSTRUCTION DETAILS

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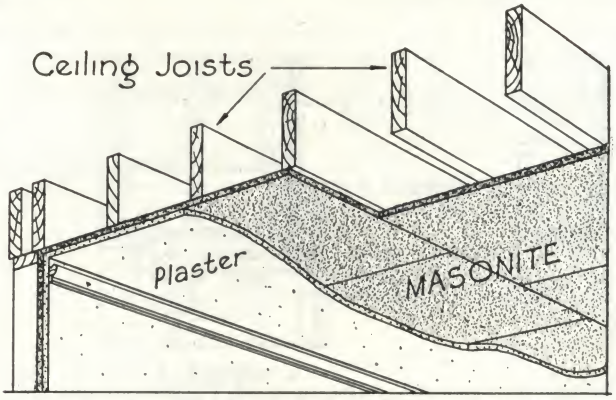

FIG. 7 CEILING INSULATION

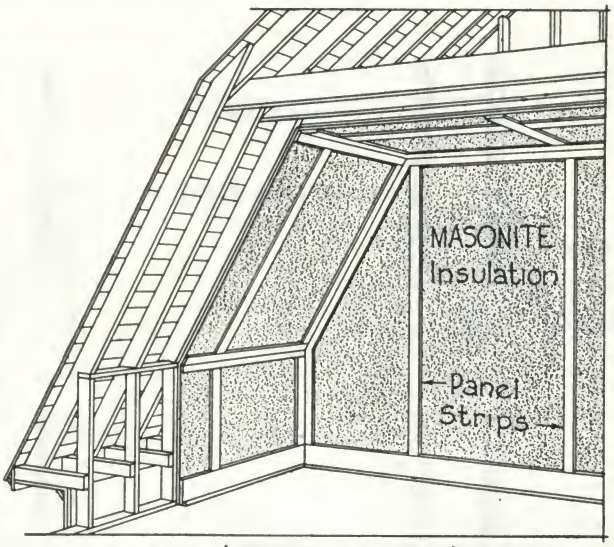

FIG. 9 ATTIC INSULATION

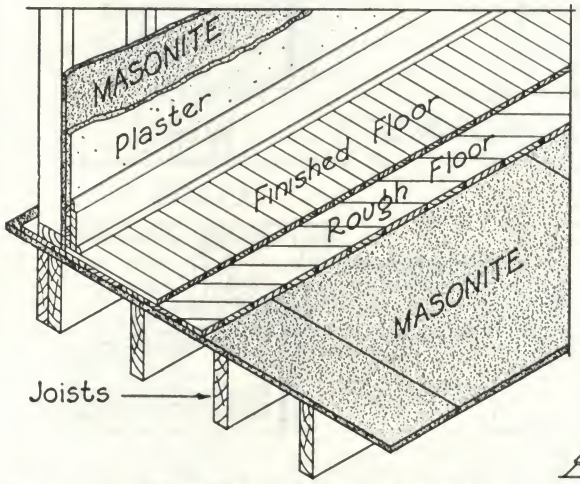

FIG. 8 FLOOR INSULATION

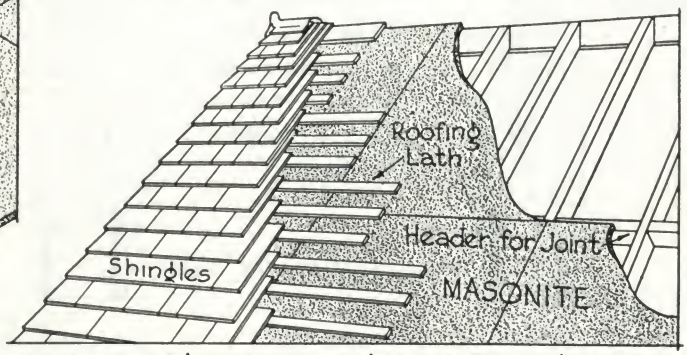

FIG. 10 MASONITE NAILED TO RAFTERS

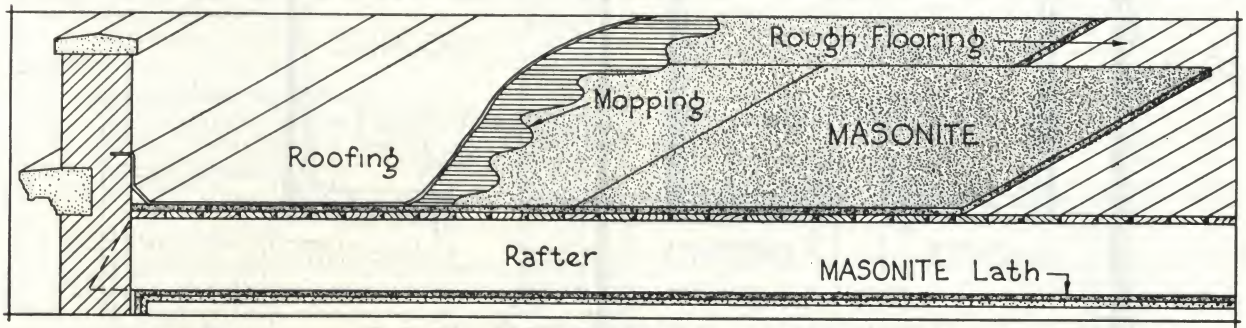

FIG. 11 ROOF INSULATION OVER WOOD DECK

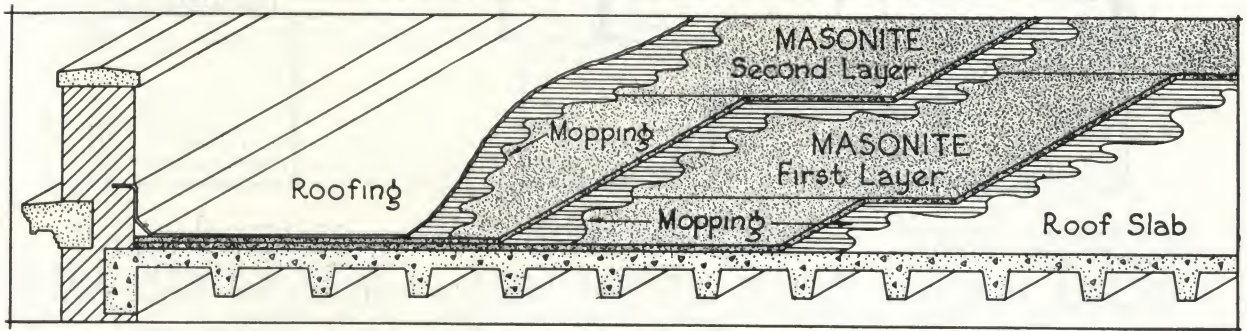

FIG. 12 ROOF INSULATION OVER CONCRETE DECK

MASONITE CONSTRUCTION DETAILS

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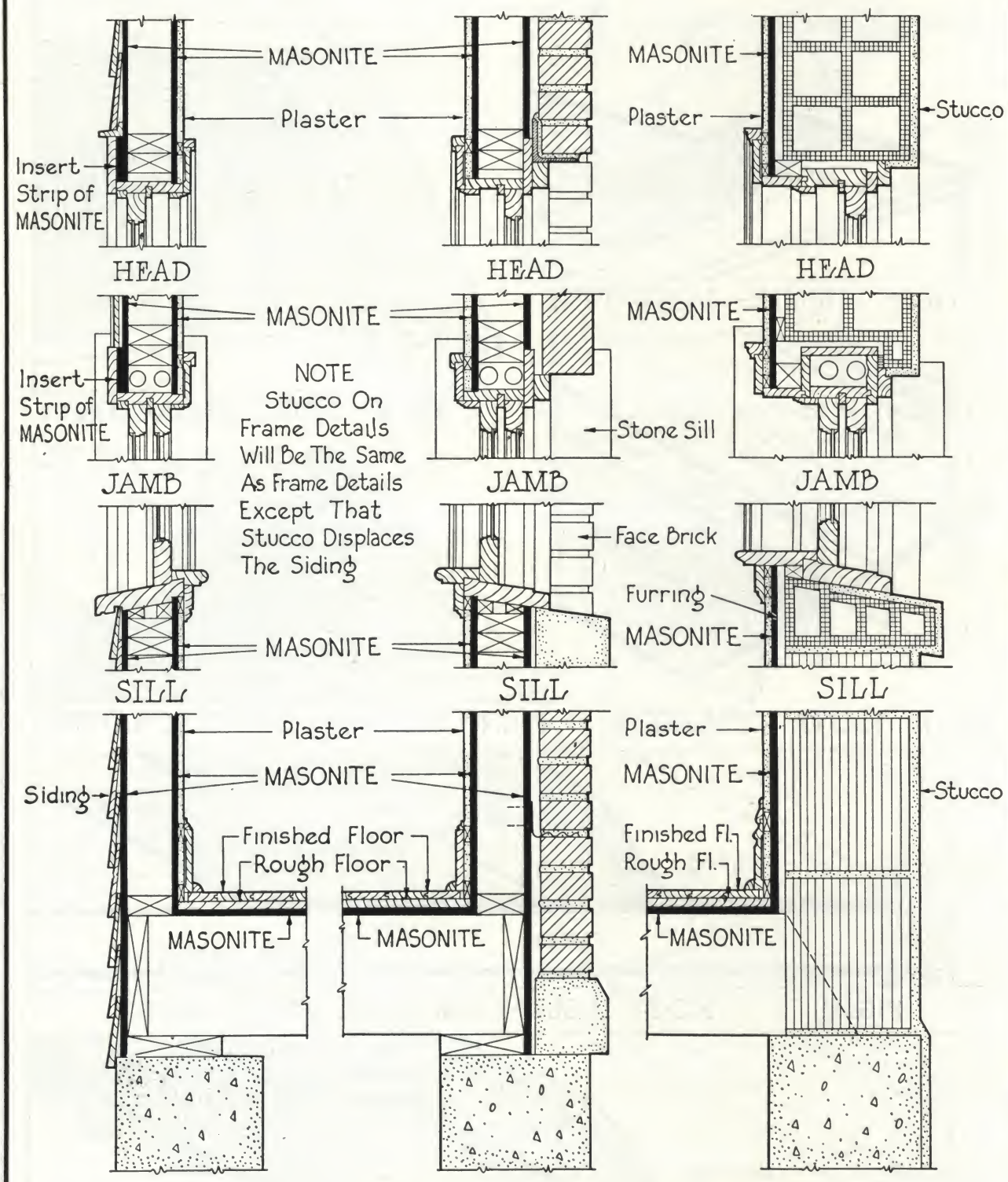

SECTION THRU FRAME WALL
FIGURE 13

SECTION THRU BRICK VENEER WALL
FIGURE 14

SECTION THRU HOLLOW TILE WALL
FIGURE 15

MASONITE CONSTRUCTION DETAILS

Continued on next page

MASONITE PRESDWOOD

What Masonite Presdwood Is

It is an all-wood fibre board, made from fibre obtained by exploding fresh, clean chips by high pressure steam. These fibres are then thoroughly felted together and are finished into boards in steam heated, flat-bed hydraulic presses where they are subjected to hundreds of tons of pressure and at the same time to a temperature of nearly 500° F.

In four ways, Masonite Presdwood is a better product than nature's own original material. It is both grainless and knotless, has greater resistance to moisture, is much denser and far tougher. Yet it contains no foreign substance, not even a chemical binder. It is genuine wood—and nothing else—torn apart by steam and put together again by heat and pressure.

Shape, Size and Thickness

Presdwood is made only in board form to a standard width of 4 feet and to a maximum length of 12 feet. These boards are available in two thicknesses only, ⅛ and $\frac{3}{16}$ inch.

Advantages Presdwood Offers

It will not crack, split or splinter. It is highly resistive to wear and to moisture and shows little contraction or expansion. It contains no grit or foreign substance of any kind and does not, in any way, damage tools. It is easily worked on planers, sanders and shapers, as well as with hand tools.

Uses of Masonite Presdwood

To cover this subject would necessitate the use of much space, for Presdwood is being used extensively in many diversified fields. The uses pointed out herewith are therefore those uses which are of particular interest to the architect, builder, contractor, carpenter and home owner.

For Interior Decoration

Presdwood is used for panels on walls and ceilings, either natural, or as a ground for any desired decorative treatment in private homes, business offices, stores or public buildings. Properly installed, there is no danger of the broad, smooth, handsome boards curling, warping or buckling. It is also used extensively in built-in cabinets and for closet lining.

For Stores and Business Houses

It is used for paneling sidewalls and ceilings, for partitions, for the front and tops of counters, as tops for desks and tables and as drawer bottoms. In some instances it is being used for flooring.

For Lining Concrete Forms

In this field, the use of Presdwood is attracting much attention. Where concrete surfaces are to be left exposed, the use of Presdwood for form lining results in a fine, smooth surface on the concrete wall or column, so that no special surfacing or grinding work is required. In this work the same piece of Presdwood may be used several times. On one big job it was reported that a part of the Presdwood was used eight times.

For Special Uses

Presdwood is also being used to build radiator cabinets, clothes hampers, fire screens, radio tension boards, radio cabinets, card tables, incubators, brooders, shipping cases and children's playhouses.

Method of Applying Presdwood

Cutting and Fitting—Any woodworking tool may be used. Boards should be cut accurately to size. Under no condition should Presdwood be sprung or forced into place.

Nailing—Both size and type of nails to be used are determined by the particular requirements of the case. Where any nailing is required in the center of the board, it should be done first, after which the nailing at the edges would be done. Never "toe nail" Presdwood.

Gluing—Glue Presdwood just as you would any other wood board, using a good grade of waterproof cement or glue and being careful to secure a solid contact.

Note: *Where Presdwood is to be exposed to high humidity, it should have water sprinkled or brushed on the screen side and allowed to stand 48 hours or longer before being installed. This insures a permanent smooth, flat surface, as the board will absorb the proper amount of moisture, after which it will show no further contraction or expansion.*

Finishes Applied to Presdwood

Among the manufacturers whose products have been applied to Masonite Presdwood with thoroughly satisfactory results are the following:

Adams & Elting, U. S. Gutta Percha Paint Co., Berry Bros., Inc., Cook Paint & Varnish, DeVoe & Raynolds, DuPont, Eagle Picher Lead, Elaterite Paint & Manufacturing, Glidden, Grand Rapids Wood Finishing, Heath & Milligan, Hockaday, Inc., Marietta Paint & Color, Martin-Senour, Benj. Moore & Co., Murphy Varnish, National Lead, Peaslee-Gaulbert, Pittsburgh Plate Glass, Pratt & Lambert, Sherwin-Williams, Truscon Laboratories, and Watson Paint & Varnish.

Note: *While the sealers, lacquers, enamels and varnishes of certain well-known manufacturers are mentioned specifically in these specifications, it will be found that similar products of other reputable manufacturers will serve equally as well. Confer with your paint dealer or manufacturer concerning any special finishes or effects you may desire.*

Brush Applied

Natural—The rare beauty of rich brown burled Presdwood that always arouses admiration may be preserved by applying first a high grade clear sealer, then two or more coats of clear lacquer or varnish. A beautiful natural finish may be attained by:

First—Applying one coat of Pratt & Lambert's Filtex, reduced 50% with turpentine substitute or one coat of Sherwin-Williams Sanding Sealer No. 04598.

Second—Sanding, when dry, with 000 sandpaper or rub lightly with fine steel wool.

Third—Flow on two or more coats of varnish or two coats of Sherwin-Williams Wood Finishing Lacquer No. 04623. Rub lightly with fine steel wool after each coat dries. For the finest varnish finish rub down the last coat with pumicestone and sweet oil. A number of interesting finishes have been developed which retain the natural burl, but change the color.

Gold Bronze—Secured by applying a mixture of Mongolian Gold Powder No. 10, oil and japan with waste and then wiping. After allowing to dry 12 hours, spray with white lacquer.

Beryl Green—Secured by brushing on one coat of Beryl Green wiping oil stain, wiping, allow to dry 12 hours, then spraying one coat of water white lacquer and one coat of clear flat lacquer.

Gray Marble—Secured by brushing on one coat of Gray Wiping Oil Stain, and finishing as in the Beryl Green.

The following finish is particularly good for outside use:

DuPont Duco—Apply one or more coats of lacquer sealer No. 233-1041. Sand with fine sandpaper or steel wool. Then apply two coats of DuPont No. 259 Finishing Lacquer. Many colors are available and the lacquer number 259 should be given in connection with the color number.

Spray Applied

Note: *There are many spraying lacquers suitable for inside use. Among them being:*

DuPont Duco—Use one or more coats of sealer No. 233-1041 rubbed when dry with fine sandpaper or steel wool, then two coats of finish lacquer No. 237.

Mill White Enamel—An inexpensive finish for factories and workrooms is one coat of Filtex reduced by adding one-fourth part turpentine substitute. One coat of Lyt-all flat finish and one coat of Lyt-all Gloss Finish.

Satin Finish Enamel—Apply one coat of Benj. Moore & Co. Filcote. One coat of Moore's Sani-Flat White, reduced with 1 pint of raw linseed oil to 1 gallon of paint. One coat of Moore's Dulamel White. Rub lightly with 000 sandpaper or fine steel wool, after the first two coats, if desired.

Outside Paint

Outdoor Paint Finish—Apply one coat lead and oil, using raw linseed oil in large proportions. Second coat with lead and oil, using less oil than in the first coat. The third or finish coat will contain the usual proportion of lead, oil and zinc.

Masonite

Structural Insulation
Insulating Lath
Quartrboard
Presdwood

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